



McMicken College
of Art & Sciences

— Geography and GIS

Graduate Handbook



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The background of the page is a grayscale photograph of a beach. In the foreground, there are gentle waves washing onto the shore, creating a textured pattern of white foam and sand. The beach extends towards the horizon under a clear sky. On the right side of the page, there is a large, solid red square icon.

Introduction

Graduate students are subject to the most current university rules and regulations. Returning students are subject to the current rules, policies, and regulations in effect at the time of their re-admission and thereafter. The University of Cincinnati's Graduate School Handbook of the Division of Graduate Studies and Research is the official university document that governs the graduate programs at the University of Cincinnati. It contains the rules and policies of the Graduate School and lists all the primary requirements of advanced degrees. The University of Cincinnati Graduate Handbook clarifies minimum university-level requirements and policies that apply to all graduate students throughout the University of Cincinnati. Beyond these, each student is also expected to adhere to requirements, policies, and procedures specific to the Geography Department and the College of Arts and Sciences.

All graduate students are responsible for knowing and following the policies in this handbook and in the University Graduate Handbook.

The Department of Geography and GIS Graduate Student Handbook is published and maintained by the Department of Geography and GIS. Besides supplementing, amplifying, and interpreting the requirements of the university graduate school, this handbook focuses on the additional requirements and information that the Department of Geography and GIS places on its graduate students. It itemizes the additional requirements of the department, and details the sequence of events and milestones leading to the Master of Arts (MA) and Doctor of Philosophy (PhD) degrees.

All graduate students are required to be thoroughly familiar with and bound by the information contained in the Graduate School Graduate Student Handbook. Additionally, all students are expected to conduct their behavior in accordance with the Student Code of Conduct, published and enforced by the Office of University Judicial Affairs.

This official record of policies and procedures affects all students on the UC campus. Finally, the Department of Geography and GIS adheres to the University's expectations on students' academic responsibility.

— Requirements for Admission and Financial Aid

As a general rule, any student who has acquired or will soon acquire a Bachelor's degree (or equivalent) in geography or in a related field is eligible to apply for admission to the MA program. Similarly, one who has or will soon acquire an MA degree may apply for the PhD program.

2.1. General Admission Requirements

The general admission requirements of the Graduate School of the University of Cincinnati are as follows:

- Applicants must have earned a U.S. bachelor's degree from a regionally accredited college or university or an equivalent degree from another country;
- Applicants must have a minimum grade-point average (GPA) of 3.00 or foreign equivalent;
- Applicants must have proof of English proficiency, if English is not his/her native language.

Students interested in applying for a graduate-level program in geography will need to pay the application fee and complete the electronic application form available through the Graduate School website.

2.2. Additional Requirements of the Department of Geography and GIS

In addition to completing the electronic application and paying application fees, an applicant to graduate-level programs in the Department of Geography and GIS must comply with the following as part of the electronic admission process:

- An official transcript of the student's academic record, which must be submitted both online and directly to the department to the attention of the Geography Graduate Program Director.
- Three letters of recommendation, commenting upon the student's aptitude and potential for graduate studies and research;
- Official GRE scores (verbal ability, quantitative ability, and analytical ability). The Department of Geography and GIS requires a minimum average score of 150 for the verbal section and the quantitative section.
- Either TOEFL or IELTS scores, which are required for international applicants who do not hold an undergraduate or graduate degree from a university in an English-speaking country. International students whose native language is other than English must provide official copies of Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) scores. Department of Geography and GIS requires a minimum score of 88 for internet-based TOEFL test (230 for computer-based test, 570 for paper-based test) for admission.
- A short essay (no longer than 2 pages in length) that briefly and cogently describes your educational background, past research experience, anticipated research project and topic, and your reasons for pursuing a graduate degree in geography at the University of Cincinnati. Your statement of purpose should also name up to two potential mentors from the faculty members with whom you have already been in contact and/or with whom you share research interests
- Curriculum Vitae (CV)/Resume.
- Academic/professional writing samples, which are encouraged but not mandatory.

Categories of Admission to the Department of Geography and GIS

Applicants may be admitted to a graduate program in the Department of Geography and GIS with full graduate status or with unclassified graduate status.

Full Graduate Status

Applications for and offers of admission and/or financial aid are valid only for the academic year specified by the beginning date. Reapplication must be made as appropriate for subsequent years.

Admission to the graduate program is competitive, and is based on a thorough review of the complete set of application materials by the Graduate Committee in the Department of Geography and GIS. The Department normally admits degree students beginning in autumn semester, though in special cases, applicants can be admitted to the program during spring semester. Full graduate status may be granted to an applicant who meets all the admission criteria.

Unclassified Graduate Status

The Department of Geography and GIS may allow non-matriculated students to take courses for graduate credit when they have not been admitted into a graduate degree program. Should the students subsequently matriculate into a program, the number of credits that the Department accepts toward the degree requirements from the student under this classification ordinarily may not exceed 12.

International Student Admission

International students are only admitted as full-time graduate students. In instances where an international student holds a degree for which the U.S. equivalent is not known, or if it is determined by the Department and/or the International Services Office that the applicant does not have the equivalent of a bachelor's degree, the Department must submit a petition for admission without a bachelor's degree to the Associate Dean of the Graduate School and provide any supporting documentation deemed pertinent. Before their admission to the university is completed, all international students must fulfill U.S. Immigration Service requirements and register with the International Student Services.

Important information for international students can be found in the University Graduate Handbook and UC International Services.

International students whose native language is other than English must provide official copies of TOEFL (Test of English as a Foreign Language) or the International English Language Testing System (IELTS) scores. This requirement may be waived for a foreign student who has completed an academic program of two or more years at an accredited American college or university. Department of Geography and GIS requires a minimum score of 88 for internet-based TOEFL test (230 for computer-based test, 570 for paper-based test) for admission.

Additionally, all incoming international students are required to take the Oral English Proficiency Test (OEPT) at the beginning of their first semester of study, unless they scored a TSE score of 50 or higher, a TOEFL IBT speaking score of 26 or higher, or an IELTS speaking score of 7.5 or higher. Those who pass are certified for oral English proficiency and may assume the full range of duties associated with their financial awards. Those who do not pass are recommended for an ESL (English as a Second Language) course suited to their needs. Students whose oral English proficiency has not been certified may not assume instructional responsibilities. In accordance with the Ohio Revised Code 3345.281, all teaching assistants whose native language is not English must have their oral English assessed. The Oral English Proficiency Test (OEPT) is required of all international Teaching Assistants. In order to have a teaching assistantship, you must score 3.0 or higher on the OEPT.

Foreign applicants should address all requests for information about government regulations, passports and visas, academic matters, hospitality and university policies to:

International Student Services
University of Cincinnati
PO Box 210627
Cincinnati, Ohio 45221-0627
U.S.A.

Foreign applicants are also reminded that GRE, TOEFL and IELTS examinations can be administered abroad.

Financial Aid

Sources of Financial Support

Graduate students may obtain financial support from several sources:

- The University of Cincinnati provides merit-based graduate awards in the form of
 - tuition scholarships known as Graduate Incentive Scholarship (GIA) and Graduate Assistant Scholarships (GAS);
 - Graduate Assistantships (GA), including Teaching Assistantship (TA) and Research Assistantships (RA), and
 - program-specific scholarships and fellowships.
- Scholarship and fellowship support is also available from a diverse collection of external sponsors at the local, state, national, and international levels.
- Need-based support for U.S. students may be obtained from federal and state sources

Time limit of financial awards

A financial award is defined by any of the above types. Financial awards are normally given for the academic year, and the renewal of the awards is based on the funding availability and the review of student's academic performance. All financial awards are competitive. The time limit for the financial award:

- A MA student on the thesis option may receive financial awards for a maximum of two academic years.
- A PhD student may receive financial awards for three academic years.

Financial awards to first year graduate students

All financial supports are competitive. Financial awards are given to first year students based on the overall assessment of applicants' GPA of previous studies, GRE scores, recommendation letters, potential for working as TAs and RAs, and potential for academic success.

Financial awards to continuing students

Financial awards are given to continuing students based on their accumulated GPA in the program, their performance of working as TAs and RAs, their progress toward degree, including required course work and thesis/dissertation research, and other accomplishments, such as scholarly presentations and publications.

Financial awards to PhD students beyond three years

Financial awards to PhD students beyond three years are rare and highly competitive. Only those who have entered PhD candidacy are eligible to apply for the fourth year support. There will be no financial awards beyond four years.

Course Load Requirements

The minimum course load to maintain full-time status for a graduate student is 10 graduate credit hours per semester. Students receiving a tuition scholarship must be registered for at least the number of graduate credit hours covered by the award in each semester for which they are receiving support. Prior to using scholarship support for any audited courses, students must register for a minimum credit load of graded courses (10 graduate credit hours if supported by a GIA, 12 if supported by a GAS) in the same semester. Other rules and policies that apply specifically to international students are independent of GIA/GAS regulations. Both sets of regulations must be met. Neither set of regulations negates or takes the place of the other.

To maintain graduate status at the University of Cincinnati, students must register at UC for at least one graduate credit that contributes to degree requirements in an academic year. If the student is registered in fall semester for at least one graduate credit, he/she will maintain graduate student status throughout the entire academic year, fall through summer. Credits that are audited or in which a student receives a W, UW or F do not count toward the minimum credit requirement. Any student that does not register in the fall of an academic year and has not registered for the previous two academic years, will automatically be exited from his/her program. A student whose status has thus automatically terminated will no longer be considered a graduate student but may seek reinstatement (see Reinstatements). Also note that students wishing to use many UC resources, such as university housing, campus laboratories, office space, equipment, campus recreation center, computer labs, etc. may need to be registered. Students should check with specific facilities for their particular requirements.

History of the Department

Geography at the University of Cincinnati began in 1907 with the work of Nevin Fenneman, an early president of the Association of American Geographers. It was combined with geology until 1959, and with regional planning from 1959 to 1963. Since 1963, it has been a separate department, under the headship of Robert B. McNee, Howard A. Stafford, K. Bruce Ryan, Robert B. South, Roger M. Selya, Lin Liu, Susanna Tong, Hongxing Liu, and Nicholas Dunning.

Research Foci

The faculty members in the Department of Geography and GIS have a wide range of expertise in various sub-fields of geography. They have conducted extensive research projects in the geospatial analyses of human and physical environments. Broadly speaking, the Department offers three research foci and concentrations:

- Physical and environmental geography: including hydrology, climatology, surficial processes, geomorphology, geoarchaeology, landscape ecology, environmental archaeology, soils, aquatic ecology, biogeography, biogeochemistry, environmental geography, and natural hazards, etc.
- Human/Economic geography: including urban geography, economic geography, public health, crime geography and public security, etc.
- Geographical information science (GIScience): including remote sensing, GIS, space geoinformatics, geocomputation, spatial analysis and modeling, environmental sensor networks, location-based services, GPS, and GeoAI, etc.

These three clusters of research permit a balance between independent and cooperative scholarship. The geographical regions of specialization include: USA, Central America and Caribbean, Latin America, China, Arctic, Antarctica, etc. Students seeking admission are encouraged to communicate with relevant faculty members.

Research Specializations

Faculty Research Interests

The research interests of the faculty are summarized as below:

- ❖ **Richard A. Beck**, PhD (University of Southern California), Associate Professor. Remote Sensing, Geographical Information Networks, Physical Geography, South Asia.
- ❖ **Xi Chen**, PhD (University of Central Florida) Assistant Professor. Hydrology, Water Resources, Environmental Studies and Modeling, Environmental Engineering, Physical Geography.
- ❖ **Diego F. Cuadros**, PhD (University of Kentucky), Assistant Professor. Medical and Health Geography, GIS Applications in Epidemiology, Mathematical Modeling of Infectious Diseases. Host-pathogen and Pathogen-pathogen Interaction, Health Economics Assessment
- ❖ **Nicholas P. Dunning**, PhD (University of Minnesota), Professor. Environmental Geography, Environmental archaeology, Cultural Ecology, Tropical Ecosystems, Soils, Latin America.
- ❖ **Changjoo Kim**, PhD (The Ohio State University), Associate Professor. Geographical Information Systems, Spatial Analysis and Modeling, Transportation, Urban-Economics.
- ❖ **Lin Liu**, PhD (The Ohio State University), Professor. GIS, Crime Analysis, Remote Sensing, Spatial Interaction Modeling, Location analysis, China.
- ❖ **Kevin Raleigh**, PhD (University of South Carolina) Associate Professor Educator. Cultural Economy, Spatial Statistics, Applied Statistics and Mixed Methodologies, Geographies of Law, Geography of Europe, Consumption.
- ❖ **Robert B. South**, PhD (University of Maryland), Associate Professor. Economic Geography, Regional Economic Development, Latin America.
- ❖ **Tomasz F. Stepinski**, PhD (University of Arizona) Professor. Computational Geomorphometry, Space Informatics, Automated Computer Cartography and Map Comparison, Intelligent Data Analysis, Remote Sensing.
- ❖ **Susanna T.Y. Tong**, PhD (University of Sheffield, England) Professor. Biogeography, Conservation, Environmental Impact Analysis, Water Quality Management, Soils, Environmental Geography, China.
- ❖ **Amy Townsend-Small**, PhD (University of Texas at Austin), Associate Professor. Biogeochemistry of Rivers and Lakes, Carbon Sequestration and Greenhouse Gas Emissions in Urban Ecosystems, Impacts of Global Change on Carbon Export in the Ganges River, India, Carbon and Nitrogen Cycling in Mississippi River Headwater Streams of the Midwest.

Research Facilities and Collaborations

Computer Facilities

The Department houses three dedicated computer laboratories with the high-end computer workstations, which are equipped with various GIS, remote sensing, statistics, simulation, modeling software packages, such as ArcGIS, ENVI, IDL, eCognition, SPSS, SURFER, BASINS, HSPF, MatLab, AnyLogic Dynamic Simulation software, etc.

Physical Geography Laboratories

The teaching and research laboratories for physical geography contain equipment for environmental geography, biogeography, and soil geography research. YSI 6600V2-4 Multiparameter Water Sondes, Turner Designs Cyclops-7 Submersible Sensors, ASD FieldSpec Spectroradiometer, Trimble Pathfinder ProXH GPS Receiver, Hydra Probe II Soil Moisture Sensors, Davis Automated Weather Stations and other instruments are also available for research and teaching.

Research Institutes

Geographical research is supported by a variety of independent research institutions on campus besides Department of Geography and GIS. These include the Joint Center of GIS and Spatial Analysis, the Center for Geospatial Information and Environmental Sensor Networks (GIESN), Geology, Biology, Environmental Engineering and other departments.

The School of Planning

Geography graduate students may work toward the joint degrees of MA (Geography) and Master of Community Planning (MCP), for which one thesis satisfies both programs. The joint program normally requires three years of full-time study, including an approved summer internship with a planning agency. Inquiries about the M.C.P. Program should be directed to:

School of Planning
University of Cincinnati
PO Box 210016
Cincinnati, Ohio 45221-0016
(513)556-4943

U.S. Environmental Protection Agency (USEPA)

The research laboratories of the U.S. Environmental Protection Agency occupy a site adjoining the central UC campus. There are frequent research collaborations and interactions between USEPA research scientists and UC faculty and graduate students through joint projects.



— Living in Cincinnati

The “Queen City of the West,” as Longfellow called Cincinnati, was established in 1788 on the north bank of the Ohio River and developed as a riverboat and trade center with the West and South. It is still a major trade link between North and South, and between Appalachia and the Midwest. This conjunction of environments is reflected in its economic and social diversity. Cincinnati stands at the junction of Ohio, Kentucky and Indiana. According to the 2011 Census Bureau estimate, the Cincinnati metropolitan area had a population of 2,138,038, the 27th most populous Metropolitan Statistical Area (MSA) in the United States and largest in Ohio. Its population is a rich plurality of white, black, Appalachian, German, Irish and many other ethnic groups.

The river escarpments, hillsides, ravines and glacial moraines provide a varied topography that stands in stark contrast to the level plains of the Midwest. The topography has also separated one local community from another and given each its own distinct identity. The university is situated between the Clifton and Corryville residential areas of nineteenth century Cincinnati which still retain much of their original charm, gas street lamps, the mansions of industrial barons and remarkable trees. Two miles from the campus is downtown Cincinnati with an impressive selection of foreign and American restaurants. Cincinnati is home to two major sports teams, the Cincinnati Reds and the Cincinnati Bengals, a major tennis tournament, the Cincinnati Masters, and home to large events such as the Flying Pig Marathon, the Ohio Valley Jazz Festival, and the Thanksgiving Day race. Professional baseball and football teams play there in the Great American Ball Park and Paul Brown Stadium, and in nearby Eden Park are the Cincinnati Art Museum and Academy, the Krohn Conservatory and Playhouse in the Park. Cincinnati also boasts the Taft Museum, Museum of Natural History and Planetarium, Music Hall (home of the Cincinnati Symphony Orchestra, May Festival, and Summer Opera), and such Civil War relics as the Harriet Beecher Stowe House and Underground Railway. Surrounding the city are many state and county parks, horse farms, prehistoric Indian monuments, quaint villages and limestone caves.

In all of this there is a tremendous potential for geographical research. Cincinnati is so centrally situated with respect to other cities and centers of geographic research that students find little difficulty in getting to Chicago, Columbus, Cleveland, Detroit, Pittsburgh, the Kentucky Bluegrass, and the Appalachian areas of eastern Kentucky and West Virginia. The city is small enough for fast, uncongested movement, yet big enough to offer the full range of cultural and other assets. Cost of living is average for metropolitan areas of the United States.

— Graduate Degree Programs in Geography and GIS

The Department of Geography and GIS offers a Master of Arts degree in geography and a Doctor of Philosophy degree in geography. Two options are available for the MA program: either a thesis option or a non-thesis option. The thesis option is recommended for students who wish to continue graduate work in a PhD program, and it may also be appropriate for students who do not have an adequate background in geography and who wish to take additional course work over a longer time period (2 years). The non-thesis MA program has been structured primarily for students who have an undergraduate degree in geography and who desire to enter the job market upon completion of a master's program. Non-thesis MA students cannot be admitted to the PhD program. A student must select the thesis or non-thesis option program no later than the first day of the spring semester of the first year of matriculation. The faculty reserves the right to approve the selection, and students selecting the thesis option may not choose the non-thesis option after course credit is taken for thesis research.

Candidates for the MA degree are expected to show broad mastery of the field, with a focus on the areas of departmental strength. The three research foci, physical and environmental geography, urban and economic geography, and geographical information science, have slightly different requirements and options. Students are expected:

- to complete satisfactorily certain required courses and seminars;
- to complete additional work in areas related to their special interests (either within or outside the department);
- to write a thesis or a journal article and defend it successfully, or write a research paper and successfully conclude a field problem (non-thesis option).

The normal time taken to complete the MA program is two academic years for the thesis option and one calendar year for the accelerated, non-thesis option. A student should work out each semester's course schedule in consultation with the student's adviser and the Graduate Program Director. Their approvals are required before registration.

At the end of the second academic semester of residence, all MA students must select a faculty adviser, or the Graduate Program Director will appoint a faculty adviser. It is the faculty adviser's responsibility to assist graduate students in the completion of all degree (thesis or non-thesis option) requirements in a timely manner, to monitor student academic progress, and to mentor students during their graduate studies.

As an essential part of their educational experience and as a condition of admission to a degree program, full-time graduate students may be given certain responsibilities within the department as research or teaching assistants. These responsibilities are in addition to the specified curricular requirements.

The department evaluates student performance regularly at the end of the first semester of the student's residence. This evaluation will be based on the courses and seminars that the student has taken and through a written progress report submitted by the faculty members who have worked with the student.

— Non-Thesis MA Program

Students selecting the MA non-thesis program must complete 35 semester hours, as follows:

Required courses

(17 semester hours):

- GEOG 7015: Introduction to Graduate Geography (3 hours);
- GEOG 7009: History and Philosophy of Geography (3 hours);
- GEOG 7004: Staff Seminar (1 hour);
- GEOG 6075C: Quantitative Geography and Spatial Statistics I (3 hours);
- A second methods course (3 hours):
 - GEOG 6085C: Quantitative Geography and Spatial Statistics II; or
 - GEOG 6079C: Qualitative Methods in Geography;
 - Students may substitute another 3-credit-hour methodology course with the written approval of the Graduate Program Director.
- GEOG 6001: Field Projects in Geography (3 hours).

Requirements by concentration within geography (18 semester hours):

- Human/Economic Geography or Physical/Environmental Geography Concentration
 - At least one computer techniques course (6000a level or above);
 - Five additional seminars or approved 6000a level courses;
- GIScience Concentration
 - At least four computer techniques courses (6000a level or above);
- Two seminars or approved 6000a level courses

Writing and Research: there are two required components.

- Extended Research Paper
 - The suggested length of the paper is approximately 25 to 40 pages.
 - The paper must conform to the University of Cincinnati graduate school standards, as stipulated by Thesis Guidelines.
 - The paper may be an extension of a seminar paper, or it can be a “new topic”.
 - If the paper is an extension of a seminar paper, the topic and format must be approved by the professor to whom the paper was originally submitted and by the student’s adviser and the Graduate Program Director.
 - The paper is read by two faculty members, one of whom is the student’s adviser. An approval form indicating successful completion will be signed by both faculty members and the Graduate Program Director and entered in the student’s file.
- Field Problem
 - The student is required to register for Geog 6001 Field Projects in Geography.
 - A field problem is given to all MA non-thesis option students, whereby students have one week (seven consecutive days) to conclude the field problem and to write a report that is submitted to the student’s adviser.
 - The field problem is selected from a list of field problems submitted by the student’s adviser or other faculty, and is designed to test the student’s skills in conducting research, acquiring and testing data, field mapping, reporting and interpreting results in brief, and professionally preparing paper.
 - At least two faculty members evaluate the report. An approval form indicating successful completion will be signed by both faculty members and the GPD and entered in the student’s file.

The following is a suggested timeline and course sequence for completion of a non-thesis MA. In the table, the following abbreviations are used to indicate concentrations within geography: (G) for GIScience concentration; (H) for Human/Economic geography concentration; and (P/E) for Physical/Environmental geography concentration:

1st semester (18 Credits)

- GEOG 6075C
- GEOG 7004
- GEOG 7015
- Computer Techniques Course
- Seminar/Approved 6000a level course (H or P/E); or computer techniques course (G)
- Seminar/Approved 6000a level course
- Performance review of each new graduate student by meeting Graduate Program Director at the end of the first semester

2nd semester (17 Credits)

- GEOG 6085C or GEOG 6079
- GEOG 7004
- GEOG 7009
- Seminar/Approved 6000a level course (H or P/E); or computer techniques course (G)
- Seminar/Approved 6000a level course
- Select a thesis adviser with a written declaration by the last day of classes
- Submit the annual progress report to the Graduate Program Director by April 15

Summer semester

- Complete the extended research paper and the field problem

Students selecting the MA thesis program must complete 36 semester hours, as follows:

1) Required courses (15 semester hours):

- GEOG 7015: Introduction to Graduate Geography (3 hours);
- GEOG 7009: History and Philosophy of Geography (3 hours);
- GEOG 7004: Staff Seminar
- GEOG 6075C: Quantitative Geography and Spatial Statistics I (3 hours);
- A second methods course (3 hours):
 - GEOG 6085C: Quantitative Geography and Spatial Statistics II; or
 - GEOG 6079C: Qualitative Methods in Geography;
 - Students may substitute another 3-credit-hour methodology course with the written approval of the Graduate Program Director.

2) Requirements by concentration within geography (21 semester hours):

- Human/Economic Geography or Physical/Environmental Geography Concentration;
 - At least one computer techniques course;
 - Six additional seminars or approved 6000-level courses;
- GIScience concentration
 - At least four computer techniques courses;
 - Three seminars or approved 6000-level courses.

3) Writing and research (includes both thesis and journal options):

- Write and successfully defend an MA thesis;
- Instead of the traditional MA thesis, student can write, submit and defend at least one manuscript for submission to a peer-reviewed journal, and the manuscript must be submitted for peer review at the time of defense. Manuscripts must be prepared in accordance with the target journal's guidelines (subject matter, length, format, style, etc.). The MA student must be either sole or first author on at least one article. At the discretion of the student's adviser and thesis committee, appendices may be required as needed, including a more extended literature review or data presentation.

MA Thesis Program

The following is a suggested timeline and course sequence for completion of a thesis MA. In the table, the following abbreviations are used to indicate concentrations within geography: (G) for GIScience concentration; (H) for Human/Economic geography concentration; and (P/E) for Physical/Environmental geography concentration:

1st semester

- GEOG 7004
- GEOG 7015
- GEOG 6075C
- Computer Techniques Course
- Seminar/Approved 6000-level course (H or P/E); or computer techniques course (G)
- Performance review of each new graduate student by meeting Graduate Program Director at the end of the first semester

2nd semester

- GEOG 6085C or GEOG 6079
- GEOG 7004
- GEOG 7009
- Seminar/Approved 6000-level course (H or P/E); or computer techniques course (G)
- Seminar/Approved 6000-level course
- Select a thesis adviser with a written declaration by the last day of classes
- Submit the annual progress report to the Graduate Program Director by April 15.

3rd semester

- GEOG 7004
- Seminar/Approved 6000-level course (H or P/E); or computer techniques course (G)
- Seminar/Approved 6000-level course
- Research hours
- The thesis proposal defense

4th semester

- GEOG 7004
- Seminar/Approved 6000-level course (H or P/E); or computer techniques course (G)
- Seminar/Approved 6000-level course
- Research hours
- Submit one manuscript for journal article option or a MA thesis before the thesis defense
- Defend the thesis

Note: Maximum length for MA program is 5 years

PhD Program

Candidates for the Doctor of Philosophy degree in geography must complete at least 60 credit hours of graduate coursework above the Master's degree, or 90 credit hours if entering the program with a baccalaureate degree. The PhD is awarded following the successful completion of the seven components described below:

1) Required courses and seminars (15 semester hours):

- GEOG 7015: Introduction to Graduate Geography (3 hours);
- GEOG 7009: History and Philosophy of Geography (3 hours);
- GEOG 7004: Staff Seminar;
- GEOG 6075C: Quantitative Geography and Spatial Statistics I (3 hours);
- A second methods course:
 - GEOG 6085C: Quantitative Geography and Spatial Statistics II; or
 - GEOG 6079C: Qualitative Methods in Geography; or
 - Students may substitute another 3-credit-hour methodology course with the written approval of the Graduate Program Director.

2) Additional graduate seminars:

All PhD students must take at least 5 additional graduate seminars or approved 6000-level or above courses in Geography (totaling at least 15 credit hours).

3) Additional requirements by concentration within geography:

- Physical/Environmental concentration
 - College-level prerequisite credits in calculus, biology, chemistry and physics.
- GIScience concentration: none.
- Human/Economic Geography concentration: none.

4) Academic minor:

As one of the requirements for the PhD degree, candidates in the Department of Geography and GIS must develop an academic minor in a field other than geography. The minor should enable the candidate to understand his/her discipline better and should acquaint the candidate with the methods and philosophy of that discipline. Appropriate interdisciplinary courses may also be counted towards the minor. A mix of credits from more than one other department might be appropriate.

The minor program must be planned and approved by the adviser and reported to the Graduate Program Director. The PhD minor requirement is satisfied when the candidate has completed at least 9 credits of graduate work outside the Department of Geography and GIS, in conformity with the above guidelines, and has been awarded the grades of "A" or "B" for that work.

5) Language requirement

The language and technique requirement is set by the student's dissertation adviser and the Graduate Program Director. PhD students can fulfill the language requirement by demonstrating their proficiency at reading one foreign language in which either a substantial geographical literature exists or which will be required for field work connected with the dissertation. Students whose native language is not English may use English to satisfy the language requirement. Foreign Language proficiency requirement can be fulfilled in any one of two ways:

- By taking the Graduate School Foreign Language Test administered by the Psychological Services Center, University of Cincinnati (obtaining the following minimum score: French 460, Spanish 435).
- By satisfactorily completing 6 credit hours of foreign language courses with a grade of "B" or above. These courses have to be approved by the student's dissertation adviser and the Graduate Program Director.

Doctoral students may use six credit hours of computer language courses with a grade of "B" or better to fulfill the technique requirement. Eligible courses include, but not limited to, programming courses such as C++, Python, .NET, Java, etc. These courses have to be approved by the student's dissertation adviser and the Graduate Program Director.

6) Comprehensive examinations

PhD candidates must successfully complete a series of written examinations and an oral proposal defense exam, as part of their Comprehensive Examination requirements.

- The dissertation committee is responsible for the PhD written exam, including the writing and evaluation of the exam.
- The committee evaluates each part of the comprehensive examination separately, and 80% of the committee must agree in order to pass the exam.
- If students fail any section, they may be re-examined in a subsequent semester. Re-examination is permitted only once, and a second failure will result in the dismissal from the graduate program in geography.

Students wishing to attempt the comprehensive examination during a particular semester must make the request in writing to their adviser in adequate time to allow for committee approval of the student's bibliography. This request in writing must contain the following:

- A roster of the candidate's Dissertation Committee Members;
- A concise statement of the candidate's dissertation topic;
- A list of all graduate courses completed by the candidate;
- An annotated bibliography for each of the two parts of the written examinations. Typically students will have 20-25 citations for each part, not to include textbooks and specified readings from required courses.

The adviser may decline to arrange a comprehensive examination if the candidate's letter of request fails to indicate adequate preparation for the examination.

The written portion of the comprehensive exam will consist of two sections:

- Part A: Broad and foundational aspects of the discipline of geography, which may include history, philosophy, theory, methods, and techniques.
- Part B: Specialty examination, which will focus on all aspects of the student's dissertation topic.

Written comprehensive examinations will normally be structured and conducted as follows:

- Part A is given on Day 1 (three hours), and Part B is given on Day 2 (three hours). Each section will typically consist of 2 response essays, where the student answers two questions out of four provided by the dissertation committee.
- Part C, the oral proposal defense, is taken after the student has successfully completed the written examinations. Normally, this takes place within ten academic calendar weeks of the written examinations. Before the oral proposal defense, the student has to submit a written dissertation proposal to the dissertation committee.

Successful completion of Items 1 through 6 above will permit the student to enter candidacy and become an All But Dissertation (ABD) candidate, which must be completed within five years of beginning the PhD program

7) Write a dissertation that embodies original research

The preparation of the dissertation must include the following:

- Write an acceptable PhD dissertation of original research or write and submit at least three manuscripts for publication in peer-reviewed journals. Manuscripts must be prepared in accordance with the target journal's guidelines (subject matter, length, format, style, etc.). The PhD student must be either sole or first author on at least two of the three articles. At least 2 of the 3 articles must be submitted for peer-review at the time of defense. Students are encouraged to submit their journal articles to the ISI-ranked peer reviewed journals. All three articles should be related to a common theme or topic.
- A successful open defense of the dissertation before the dissertation committee

Further guidelines for journal option PhD dissertation:

- The format for using the journal option for the PhD. dissertation will be as follows:
 - Introduction
 - Literature Review
 - Theory and methods
 - Paper 1
 - Paper 2
 - Paper 3
 - Summary and Conclusions
 - (Appendices as necessary)
- Students will select topics and target journals in consultation with their advisers
- The student and adviser (and other committee members and faculty as needed) should work closely in the creation of an appropriate research design, collection of data sets, analyses, and write-up.
- Students should submit their article manuscripts to their committee members and other faculty as a preliminary peer-review process, and revise their manuscripts accordingly.
- Students are strongly encouraged to present their articles as conference posters or papers.

The following is a suggested timeline for completion of a PhD:

1st semester

- GEOG 6075C
- GEOG 7004
- GEOG 7015
- Computer Techniques Course
- Seminar/Approved 6000-level course #1
- Performance review of each new graduate student by meeting Graduate Program Director at the end of the first semester

2nd semester

- GEOG 6085C or GEOG 6079
- GEOG 7004
- GEOG 7009
- Seminar/Approved 6000-level course #2
- Seminar/Approved 6000-level course #3

Select a dissertation adviser with a written declaration by the last day of classes

Submit the annual progress report to the Graduate Program Director by April 15

3rd semester

- GEOG 7004
- Seminar/Approved 6000-level course #4
- Seminar/Approved 6000-level course #5
- Academic Minor Course #1
- Language/technique Course #1
- Directed Research

It is recommended to submit the dissertation committee composition proposal with a 2-page description of the research topic, which is subject to the approval of the Geography faculty.

4th semester

- GEOG 7004
- Academic Minor course #2
- Language/technique course #2
- Directed Research

Submit the annual progress report to the Graduate Program Director by April 15

It is recommended to take comprehensive exams and defend dissertation proposal this semester.

Note: the comprehensive exam must be taken by the end of the fifth year of the PhD program

5th semester

- GEOG 7004
- Academic Minor course #3
- Dissertation Research

6th semester

- GEOG 7004
- Dissertation research

Submit at least two manuscripts for journal article option or a PhD dissertation before the dissertation defense

Defend the dissertation.

Note: Maximum length for PhD program is 9 years

Additional Requirements

Course Substitution

A student can request to substitute a required course by a similar course. If the substituting course has been taken previously, the student must take another geography course to makeup the credit hours. In the event that geography course offerings are limited or student's research requires knowledge outside of geography, the student can request to take non-geography courses. All the above matters must be approved by the advisor and the graduate director in writing.

Adviser

MA and PhD candidates are expected to select a thesis or dissertation adviser by the last day of classes of the second academic semester, in which the student is in residence. A written declaration of intent between the adviser and the candidate must be presented to the Graduate Program Director by the student to confirm the agreement. The adviser-candidate agreement may be dissolved at any time, and dissolution may be initiated by either party. Selection of a new adviser follows the above procedure and must be completed during the same academic semester in which the original agreement is dissolved.

Committee Composition

An MA thesis committee must be composed of a minimum of three members. Two of them must be faculty members (not including adjunct or emeriti faculty) of the Geography Department. The third member may be a full-time faculty member of the Geography Department, a full-time faculty member from another department at UC, a full-time non-University of Cincinnati faculty member, or a qualified person working in either government or business.

The PhD committee must be composed of a minimum of five faculty members with four of them being faculty members (not including adjunct or emeriti faculty) of the Geography Department. The fifth must be an outside member, who may be a full-time faculty member from another department at UC, a full-time non-University of Cincinnati faculty member, or another qualified professional, to be approved by the Graduate School. If a member outside the University is part of the committee, such a person would serve as a full voting member of the committee without compensation from either the University or the candidate. The composition of the dissertation committee is subject to the approval of a simple majority of the Geography faculty, usually at a regularly scheduled faculty meeting, with the goal of matching the expertise of faculty members to the topic of the dissertation. If the dissertation topic is changed, the adviser should inform the Graduate Program Director in writing. If the change in dissertation topic is substantial as judged by the Graduate Program Director, the composition of the dissertation committee needs to be reviewed and approved by the Geography Faculty.

The student should provide the Geography faculty with a 2-page description of their research topic, which includes a statement of the problem, the scientific objectives, and proposed methodologies. The list of proposed committee members should contain a brief description of their expertise and how they will contribute to the proposed research. The thesis and dissertation committees are ultimately subject to the approval of the Graduate Program Director and the Graduate School.

Submission of Research Proposals

MA and PhD candidates may submit thesis/dissertation proposals at any time between the third and ninth weeks of any semester, and should submit and distribute identical copies of the proposal to all committee members. The date of distribution should appear on the title page of the proposal, as this becomes the date of the formal submission. A digital copy of the proposal should also be given to the Graduate Program Director.

The student's proposal defense occurs within 15 working days of the proposal's formal submission. MA or PhD committee members may submit written comments to the candidate's adviser within this fifteen-day period. At the student's proposal defense, committee members will unconditionally accept, conditionally accept, or reject a proposal as the result of evaluation. The adviser will inform both the candidate and the Graduate Program Director of the outcome of the proposal defense.

Defense of Thesis/Dissertation

After completing the thesis or dissertation, the candidate, through his or her adviser, should request a review and evaluation of the work, formally occurring as the candidate's defense. The adviser is responsible for arranging the time and place of the defense. All of the PhD dissertation committee members must attend the defense either in person or electronically through the internet. To pass the defense, 80% of the committee members must vote in favor. The adviser will inform both the candidate and the Graduate Program Director of the outcome of the defense. If there is any post-defense revision on the thesis/dissertation, the adviser and the committee members are responsible to ensure that such revisions are made before certifying for graduation.

Progress in Graduate Program

The Department of Geography and GIS adheres to registration procedures and credit/grading practices as stipulated on the web page of the University Registrar.

Additional Stipulations

The following are additional stipulations placed on graduate students by the Department of Geography and GIS:

- A minimum grade of “C” or “S” must be earned on all course work in order to obtain graduate credit. In order to obtain a graduate degree, a student must maintain a “B” average (3.0 GPA on a 4.0 scale). At least 2/3 of the minimum graduate credits necessary for the degree must be at a level of “B” or higher.
- Students must perform their departmental duties in a satisfactory manner, in terms of punctuality, reliability, efficiency and compliance with faculty.
- Each student must submit a written progress report by April 15 of each academic year to the Graduate Program Director and to his/her adviser.

Dismissal from the Graduate Program in Geography and GIS

In addition to maintaining a 3.0 Quality Point Average (GPA), students are expected to:

- Perform their departmental duties satisfactorily (punctually, reliably, through agreed upon procedures and in a spirit of helpfulness toward others),
- Make consistent progress towards the completion of degree requirements:
 - By registering for at least one credit each academic year during the autumn semester.
 - By submitting a written progress report by April 15 of each academic year. One copy should be submitted to the Director of Graduate Studies. Another copy should be submitted to the adviser.
- Satisfy all other requirements of the Division of Graduate Education and Research, as set out in the University Bulletin and the minutes of the Graduate Faculty, and the Handbook of the Division of Graduate Studies and Research.

Each student’s progress is reviewed regularly, particularly through the meeting between the student, adviser and the Graduate Program Director held at the end of the first semester and the spring semester progress reports.

If expectations of graduate students by the Department of Geography and GIS are not met, the department may terminate a student’s degree program and/or financial aid. Students are specifically warned of possible termination by the Graduate Program Director and are advised of needed improvements.

A student dismissed from the graduate program may file a written petition with the Graduate Program Director for readmission. The faculty may consider extenuating circumstances surrounding the reasons for dismissal, and the probability that the student can successfully complete the program with at least the 3.0 GPA required to graduate in rendering its decision to allow or deny readmission. If a dismissed student wishes to be considered for readmission in the subsequent semester, a petition must be filed within five working days of receipt of the written dismissal notice.

If a previously dismissed student is readmitted, all previously earned grades remain on the permanent record and are computed in the overall grade point average.

Students are fully informed of all decisions affecting their status in the program and each has the right to appeal under grievance procedures in place at the University.

Completion of Degree and Graduation

Time to degree Requirements

For MA students, all requirements must be completed no later than **five years** from the date of matriculation into the degree program.

For PhD students, all requirements for the doctoral degree must be completed within **nine consecutive years** of the date of matriculation into the program (up to **five years pre-candidacy** and **four years post-candidacy**). Under extenuating circumstances, students may petition the Associate Dean of the Graduate School, through their department and college, for extension of the time limit for attaining their degree prior to expiration. The doctoral degree is granted for no less than the equivalent of three years of full-time graduate study

Graduation

Graduation and awarding of the degree occurs when all the following are met:

- Completion of all departmental requirements;
- Removal of all "N", "I" and "F" grades;
- Completion of the required semester credit hours;
- Formal application for degree by the deadline for the semester in which they expect to graduate;
- Formal submittal of research completed, in final form, and in formats specified by the graduate school (e.g., electronic submissions); and
- All other requirements as specified by the Graduate School

Special Rules and Provisions

Special Rules and Provisions are as detailed in the University of Cincinnati Handbook of the Office of the Vice President for Research and University Dean of Advanced Studies, section 9.

Non-Discrimination Policy

Discrimination on the basis of race, color, religion, national origin, sex, sex orientation, handicap or age will not be practiced. Complaints involving the abridgement of this policy should be addressed to the Affirmative Action Coordinator.

Right to Review Records

Students, once enrolled, have the right to review their educational records, except for those excluded by law, upon request. Except for "Directory Information", student records are treated with confidentiality so that the only access afforded University faculty or staff is on a "need-to-know" basis.

Grievance Procedures for Graduate Students

See Appendix H of the Handbook.

Graduate Assistant Appointment Procedures

See Appendix I of the Handbook, "Graduate Awards Manual"

Restricted Research for Theses and Dissertations

Student involvement in industrial proprietary projects should be permitted only when these projects in no way restrict the student's ability to fulfill his or her degree requirements, which includes the obligation to publish dissertation results.

Academic Honesty

Academic dishonesty in any form is a serious offense and cannot be tolerated in an academic community. Dishonesty in any form, including cheating, plagiarism, deception of effort, or unauthorized assistance, may result in a failing grade and/or suspension or dismissal from the Graduate Division.

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